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Photon echo locking via inhomogeneous broadening controlled by a weak pulsed magnetic field and optical storage

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Abstract

Two-pulse photon echo in LiLuF 4:Er 3+ crystal subjected to a weak pulsed magnetic field is investigated. The dependence of the echo intensity on the magnetic field switching time is analyzed. Prospects for using photon echo modulation by a weak magnetic field for photon-echo-based storage are discussed. © 2011 SPIE.

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Keywords

Inhomogeneous broadening, Photon echo, Photon-echo-based storage, Weak magnetic field